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U. S. DEPARTMENT OF AGRICULTURE

# THE GRADING OF CANNING CROPS

IN

## PENNSYLVANIA

SEASON  
OF  
1934

BUREAU OF MARKETS  
DEPARTMENT OF AGRICULTURE

HARRISBURG

REV. '38

Commonwealth of Pennsylvania  
Department of Agriculture  
Harrisburg

D. M. James - K. R. Slamp  
Bureau of Markets

THE GRADING OF CANNING CROPS IN PENNSYLVANIA

Reports received from principal canning sections of the country, indicate that the purchasing of canning crops on the basis of Federal grades continues to increase, both in volume and in scope. Each year sees larger graded tonnages purchased, additional commodities graded and additional canning sections changing from flat rate to graded purchases.

During the first years of this grading, many growers did not favor the change believing that greater benefits would result to the canners than to the growers. However, results have shown that both the producer and the processor benefit, since the canner can afford to pay the grower higher prices for improved quality raw stock. Reports from various canning sections show that most growers now favor graded selling. In Pennsylvania several canneries have changed to graded buying at the request of the growers delivering to those plants. Since the average return per ton is generally higher than the prevailing flat rate price in the state, it is not surprising that most growers favor this method of purchase. During the 1934 season, Pennsylvania tomato growers who sold to canneries received an average of \$13.70 per ton compared with the average flat rate price of \$11.75 per ton.

Pennsylvania ranks fourth of all states in the annual value of canned foods produced, being excelled only by California, New York and New Jersey. The reputation of Pennsylvania canned goods is excellent since Pennsylvania canners have stressed quality more than quantity. Quality canned foods are produced only from high quality raw stock so it is important that the quality of canning crops produced in Pennsylvania be maintained at a high level, if the present reputation of Pennsylvania for canned foods is to be perpetuated. Experience here and in all other leading canning states since 1927 definitely proves that the surest method of maintaining high quality production is through purchasing the raw stock under federal grades.

PROGRESS OF WORK IN PENNSYLVANIA

The first experimental grading work in Pennsylvania was carried on in three factories in 1927, when 235,000 pounds of tomatoes were graded. In 1928, this figure increased to 8,842,000 pounds covering bulk apples, grapes and tomatoes. From this small beginning during 1927 and 1928, the grading work increased to 74,920,373 pounds during the 1934 season. The volume of grading in Pennsylvania from 1927 to 1934 is shown on Table No. 1 which follows.

\*\*\*\*\*

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Table #1 - Inspection of Fruit and Truck Crops for Manufacture in Pennsylvania 1929 - 1934

Crop	1934 (pounds)	1933 (pounds)	1932 (pounds)	1931 (pounds)	1930 (pounds)	1929 (pounds)
Totals	74,920,373	46,715,915	68,696,624	53,453,839	43,792,819	13,487,955
Apples	35,552,996	22,982,822	41,792,184	32,114,069	36,453,499	8,956,008
Cherries	2,051,244	307,062	657,203	2,479,124	2,710,000	-----
Grapes	6,396,760	3,400,000	3,914,000	5,176,000	3,004,700	1,801,784
Raspberries	12,145	19,200	-----	-----	-----	-----
Snap Beans	-----	-----	112,021	320,322	131,675	373,407
Tomatoes	30,907,228	20,006,876	21,694,216	13,364,324	1,492,945	2,356,756

\*\*\*\*\*

BULK APPLE GRADING - 1934

For the fifth consecutive year, practically the entire tonnage of apples purchased by canners was secured on the basis of federal grades under state inspection. In addition to canning stocks, apples received at packing houses for sale as fresh stock were secured under inspection at several points.

Fewer apples graded "Ciders" during 1934 than any year since the beginning of grading in 1930, although the averages for 1933 and 1934 were strikingly similar. The fact that so few apples graded ciders or cannery No. 2's in the past few years indicates that the quality of Pennsylvania canning apples is tending to improve.

Table #2 - Average Classification of Pennsylvania Bulk Apples - 1930 - 1934

Grade	1934	1933	1932	1931	1930
U. S. No. 1	23%	23%	18%	35%	24%
U. S. Commercial	*	*	*	1%	4%
U. S. Cannery No. 1	70%	47%	50%	34%	33%
U. S. Cannery No. 2	**	19%	22%	7%	21%
Ciders	7%	11%	15%	23%	18%

\* U. S. Commercial and U. S. No. 1 grades combined in 1932-34.

\*\* U. S. No. 1 and U. S. No. 2 Canners combined in 1934.

TOMATO GRADING - 1934

The eighth season of tomato grading in Pennsylvania showed an increase of nearly 55% over the 1933 tonnage. Nearly 31 million pounds were graded in 1934 compared to 20 million in 1933. In addition, 2104 acres of tomatoes from counties in eastern Pennsylvania were Federal-State inspected at the Campbell Soup Company at Camden, N. J.

Table #3 - Cannery Tomato Inspection

State	Tonnage Graded	% of Total Acreage Graded		U. S. No. 1 %	U. S. No. 2 %	Culls %
		U. S. No. 1 %	U. S. No. 2 %			
Pennsylvania	15,453	80	61	34	5	
New Jersey	91,060	67	58	39	3	
New York	64,054	53	66	32	2	
Indiana	143,250	46	55	42	3	
Ohio	28,171	36	69	25	6	
Illinois	3,954	35	48	45	7	
Maryland	8,375	4	44	51	5	

The U. S. Division of Crop Estimates reports 7,800 acres of tomatoes grown in Pennsylvania in 1934, which would indicate that 80% of the Pennsylvania acreage was contracted for and delivered on the basis of the U. S. Tomato Grades.

State inspectors were located at 18 tomato canneries in Pennsylvania as follows:

Burgoon & Yingling, Chancetford Packing Co.,	Gettysburg Collinsville
S. M. Fife,	Airville
J. Gemmil, Girard Canning Co.,	High Rock Girard
Hanover Canning Co.,	Hanover
Lineboro Canning Co.,	Lineboro, Md.
Littlestown Canning Co.,	Littlestown
Melrose Canning Co.,	Hanover (2 canneries)
Musselman Canning Co.,	Biglerville
Myers Canning Co.,	Spring Grove
North East Preserving Works,	North East
Howard Proctor,	Delta
H. M. Ruff,	Woodbine
W. Scott Silver,	Nottingham
R. Snyder,	Delta
Welch Grape Juice Co.,	North East

\*\*\*\*\*

Although the quality of the 1934 tomato crop in Pennsylvania was not uniformly high throughout the season, the yearly average for the entire state was the highest for the eight years of grading. 61% of the tomatoes packed graded U. S. No. 1, and 5% were culls. Table #4 compares the average grades in 1934 with each year from 1927.

Table #4 - Classification of Graded Tomatoes in Pennsylvania - 1927 - 1934  
(Weighted Average-Percent)

	1934*	1933	1932	1931	1930	1929	1928	1927
U. S. No. 1	61	51	52	46	42	54	41	51
U. S. No. 2	34	43	43	45	54	42	51	39
Culls	5	6	5	9	4	4	8	10

\* Figures for 1934 do not include 3 canneries purchasing on U. S. Standards for Strained Tomato Products (juice or pulp).

\*\*\*\*\*

Table #5 shows the average season grading at Pennsylvania canneries in 1934, prices paid for No. 1's and No. 2's and the average season prices paid. The average price received by tomato growers selling on the grade basis (including 2,104 acres grown in Pennsylvania and delivered to a New Jersey cannery) was \$13.70 compared to an average price of \$11.75 for tomatoes sold flat rate. Last year the average graded price in the state was \$12.61 and the average flat rate price was \$10.73.

During the 1933 season, 7 canneries in the state purchased tomatoes with a differential of \$10.00 a ton between the U. S. No. 1 and U. S. No. 2 grades, and the average differential was \$8.61. During 1934, the greatest differential was \$9.00 at one plant and the average was \$6.67. This is more nearly in line with the differential of \$5.00 a ton suggested by results of the extensive research work done by Hauck and Radebaugh to determine an approximate price differential between ones and twos based on the value of each of these grades in the pack-out of canned goods.

Table #5  
Season Average  
Classification  
1934

	U. S. #1	U. S. #2	Culls	U. S. #1	U. S. #2	Season Ave.
Cannery A	57%	38%	5%	\$16.80	\$8.40	\$12.52
" B	74	20	6	14.28	8.90	12.31
" C	64	27	9	14.28	8.90	11.54
" D	70	25	5	14.28	8.90	12.22
" E	59	37	4	16.00	8.50	12.59
" F	57	38	5	16.00	8.00	12.16
" G	28	70	2	12.00	12.00	12.00
" H	60	34	6	14.28	8.90	11.59
" I	50	43	7	17.00	8.00	11.94
" J	69	26	5	14.28	8.90	12.16
" K	67	31	2	16.00	8.00	13.20
" L	82	11	7	15.00	15.00	14.01
" M	64	33	3	16.80	8.40	13.52
" N	81	15	4	13.25	8.25	13.88
" O	69	26	5	15.00	8.00	12.43
" P	62	30	8	14.28	8.90	12.68
" Q	64	33	3	12.25	7.25	10.23
" R	69	29	2	16.00	8.00	13.36

A very valuable contribution in research of the quality factors affecting grade of cannery tomatoes has recently been published by Purdue University in the form of Bulletin #394. F. C. Gaylord, who has been in charge of this study, has permitted quotation from his publication.

"A majority of tomatoes become U. S. No. 1's if allowed to ripen."

"Intelligent and skillful picking can do more to increase profits from the tomato field than any other farm practice."

"These investigations show that growers secure higher percentages of U. S. No. 1's and larger yields by picking less often and doing a better job."

"The most important factor after the crop has been grown is the careful picking of it."

"In these studies tomatoes remained as U. S. No. 1's for an average of 6½ days. ----In moderately warm, dry weather it is not unusual for individual tomatoes to remain as U. S. No. 1's for 10 to 15 days and occasionally for 20 to 25 days."

"Color is only one factor of quality, but good flavor is usually found associated with excellent color."

"Sandy soils, unless high in organic matter and with sufficient available plant food are likely to grow a low percentage of U. S. No. 1's."

"There is little significant difference between the percentage of U. S. No. 1's produced on black soil as compared with clay soil."

"Tomatoes ripening during the first half of the season grade a greater percentage of U. S. No. 1's than during the last half of the season."

"Heavily defoliated plants produce a low percentage of U. S. No. 1's during a harvesting season of hot weather."

"Tomato picking has been considered a common task and it's vital importance is all too often overlooked by the farmer until his load reaches the factory."

"Under favorable conditions culls should not exceed two or three percent for the season if growers pick tomatoes properly."

Table #6 shows a striking comparison between the highest and lowest quality loads graded at Pennsylvania factories in 1934. The grower of the best load received \$5.07 more per ton for it than the flat price would have paid. The canner, on the other hand, paid \$6.07 less for the poorest load than he would have paid flat rate but an average increased price of \$1.95 per ton over the prevailing flat rate price.

Table #6 - Grading of Best, Poorest and Average Load, Showing Price Comparison with Ungraded Tomatoes. Season of 1934.

Grades	Average Load	Best Load	Poorest Load
U. S. No. 1	61%	98%	15%
U. S. No. 2	34%	2%	53%
Culls	5%	--	32%
PRICES RECEIVED			
Graded	\$13.70	\$16.82	\$ 5.68
Flat Rate	11.75	11.75	11.75

#### SOUR CHERRY GRADING - 1934

The fifth year of cherry grading in Pennsylvania saw an increase to 2,000,000 pounds from 300,000 pounds graded in 1933. The U. S. Grades are proving to be generally satisfactory to both grower and canner. The increase of the cherry maggot during the past few years has been a very disturbing factor to the industry and threatens to cause rejected loads by the canner and seized shipments of the finished product by the Pure Food and Drug Administration unless this pest is held more closely in check by thorough spraying methods.

During the 1934 season 92% of all cherries inspected graded U. S. No. 1, the balance being culls.

#### GRAPE GRADING FOR JUICE PURPOSES - 1934

The volume of grapes inspected for juice purposes was greater than in any year since the work started in 1928. More than 6-1/3 million pounds were classified by state inspectors during the fall of 1934.

The manufacturers contract with the growers for U. S. No. 1 juice grapes with certain requirements waived, such as splits and straggly bunches. The net returns to the grape growers are usually somewhat higher than the returns received from carlot shipping since the expenses for packing and packages are eliminated in selling to the grape juice manufacturers.

#### SUPERVISION AND COST OF CANNERY INSPECTION SERVICE

This is a self-supporting service under state supervision. All inspectors are trained and licensed by the Pennsylvania Bureau of Markets and may be hired by buyers or sellers of canning crops, through the Federal-State Inspection Fund, E. B. Mitchell, Treasurer, Harrisburg, Pa. During 1934 the gross cost for each inspector amounted to \$42.00 per week. From this amount \$3.00 a week was paid to the State Treasury to offset the cost of state supervision and various overhead expenses, such as certificates, postage, clerical, office rents, etc. The balance of the weekly charge of \$42.00 a week was used to pay the inspectors and to meet minor charges such as compensation insurance, Federal tax on checks, etc. A small balance left in the Federal-State Fund will be retained to meet the contingency of paying reporting expenses of inspectors next season.

During 1934 the average cost of inspecting 75 million pounds of cannery products amounted to 13-2/3 cents a ton, compared with 12-2/3 cents in 1933, 18¢ in 1932 and 16¢ a ton in 1931. Although the cost at small factories is considerably higher than the average for the state, the saving from cull elimination, at some factories, is alone sufficient to pay the entire inspection charges. At one tomato factory the saving from culs amounted to \$537.50, at the prevailing flat rate price of \$11.75 a ton. The inspection cost at this plant was \$336.00 for the entire season.

Additional copies of this report or further information regarding this grading service may be secured upon request.

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Canners who wish to secure inspectors can fill in and mail the form below to the Federal-State Inspection Service, Bureau of Markets, Harrisburg.

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193.....

Federal-State Inspection Service,

Bureau of Markets

Harrisburg, Pennsylvania

Kindly furnish us with inspectors to grade ..... at  
(commodity)

the following points ..... beginning

approximately ..... and finishing about .....  
(date) (date)

Name .....

Address .....

**END OF YEAR**